



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of  
**Hickey**

Serial No.: **10/685,188**

Filed: **October 14, 2003**

For: **Portable Electronic Device with Multiple  
Input Interfaces**

Docket No: **2002-016**

)  
)  
) **PATENT PENDING**

)  
) **Examiner: Mr. Hung S. Bui**

)  
) **Group Art Unit: 2841**

)  
) **Confirmation No.:4210**

**DECLARATION OF KURT M. HICKEY**

I, Kurt M. Hickey, hereby declare as follows:

1) I am the named inventor of the invention disclosed in the above-mentioned application.

On or about February 17, 2003, I conceived an invention tentatively entitled "3-Way Keypad Flip Concept" while employed at Sony Ericsson, Inc., the assignee of the present application. I prepared an invention disclosure describing my invention not later than February 21, 2003. A copy of my disclosure is attached hereto as Exhibit 1.

2) I continued to work on my invention and prepared a supplemental invention disclosure describing an additional embodiment on or about March 21, 2003. A copy of the supplemental invention disclosure is attached hereto as Exhibit 2.

3) My invention was approved for patenting by Sony Ericsson in the course of its normal patent review process. On or about May 30, 2003, Sony Ericsson sent a request letter to patent counsel at Coats and Bennett, P.L.L.C., requesting that their firm prepare and file an application covering my invention. The request letter stipulated that a first draft be provided to me for review within three months. A copy of that request letter is attached hereto as Exhibit 3.

4) On or about August 26, 2003, Coats and Bennett prepared a first draft of the patent application covering my invention and sent it to me for review and comments. A copy of the cover letter accompanying the first draft is attached hereto as Exhibit 4.

- 5) In response to my comments, Coats and Bennett sent a final draft of my application along with the formal paperwork for me to sign on or about September 26, 2003. A copy of the cover letter accompanying the final draft is attached hereto as Exhibit 5.
- 6) The application was filed with the U.S.P.T.O. on or about October 14, 2003, receiving U.S. Application Serial No. 10/685,188. A copy of the filing receipt is attached hereto as Exhibit 6.

I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1/3/06  
Date

Kurt M. Hickey  
Kurt M. Hickey



Sony Ericsson

EXHIBIT

tabbles

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403 0033

1(2)

mechanics,  
phone features / concept  
Award pd 4/1/03

# Invention Disclosure Form

Docket No.

Date opened: \_\_\_\_\_

1. Invention Title: 3-way keypad flip concept

2. Submitted by:	1 <sup>st</sup> Inventor	2 <sup>nd</sup> Inventor	3 <sup>rd</sup> Inventor
(a) Full Name (3 names or 2 names & 1 initial)	Kurt M. Hickey	<u>kurt.hickey@sonyericsson.com</u>	
(b) Home Address	4010 Cole Mill Rd Durham, NC 27712		
(c) Work Phone	9194721271 fax: 472-1506		
(d) Citizenship	US		
(e) Pay No. (5 digit)	53903		
(f) Manager	Chris Collins		
(g) Cost Center	11018		
(h) Your Product Unit			
CDMA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GSM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CTO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M2M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Your Group:			
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: CDC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

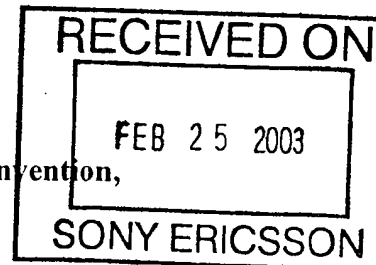
4. Date the invention was conceived: 2/17/03

5. Identify dates:

- Past disclosure of the invention outside the company: N/A
- Future disclosure of the invention outside the company: may be used on current vision project...  
- disclosure unknown at this point
- Publication of the invention: N/A
- Discussion with business partners about the invention: N/A

6. Related known products, patents, disclosures, or publications: N/A

7. Please complete the second page of this form completely describing your invention, along with any other relevant documentation.



The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
(1) <u>Kurt M. Hickey</u>	<u>2/4/03</u>	(1) <u>William Mader</u>	<u>2/21/03</u>
(2)		(2)	
(3)		(3)	

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Sony Ericsson

2(2)

U03 0033

# Invention Disclosure

Docket No.

Title: 3-way keypad flip concept

## 1. What area of technology is your invention in? (Check 2 maximum)

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Accessories          | <input checked="" type="checkbox"/> Mechanics               | <u>Software</u>                                      |
| <input type="checkbox"/> Acoustic / audio                | <input type="checkbox"/> Packaging                          | <input type="checkbox"/> Applications                |
| <input type="checkbox"/> Antennas                        | <input type="checkbox"/> Phone architectures/RF             | <input type="checkbox"/> Diagnostic/tools            |
| <input type="checkbox"/> Baseband / digital              | <input checked="" type="checkbox"/> Phone features/concepts | <input type="checkbox"/> Java                        |
| <input checked="" type="checkbox"/> Batteries / chargers | <input type="checkbox"/> Systems                            | <input type="checkbox"/> Physical layer/firmware/DSP |
| <input type="checkbox"/> Bluetooth                       | <input type="checkbox"/> Systems algorithms                 | <input type="checkbox"/> Positioning/GPS             |
|  | <input type="checkbox"/> Displays / LCDs                    | <input type="checkbox"/> Protocol                    |

## 2. What are the benefits of your invention?

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Appearance | <input checked="" type="checkbox"/> Easier to use | <input checked="" type="checkbox"/> New feature |
| <input type="checkbox"/> Better performance    | <input checked="" type="checkbox"/> Efficiency    | <input type="checkbox"/> Power saving           |
| <input type="checkbox"/> Cost savings          | <input type="checkbox"/> Improved audio           |   |

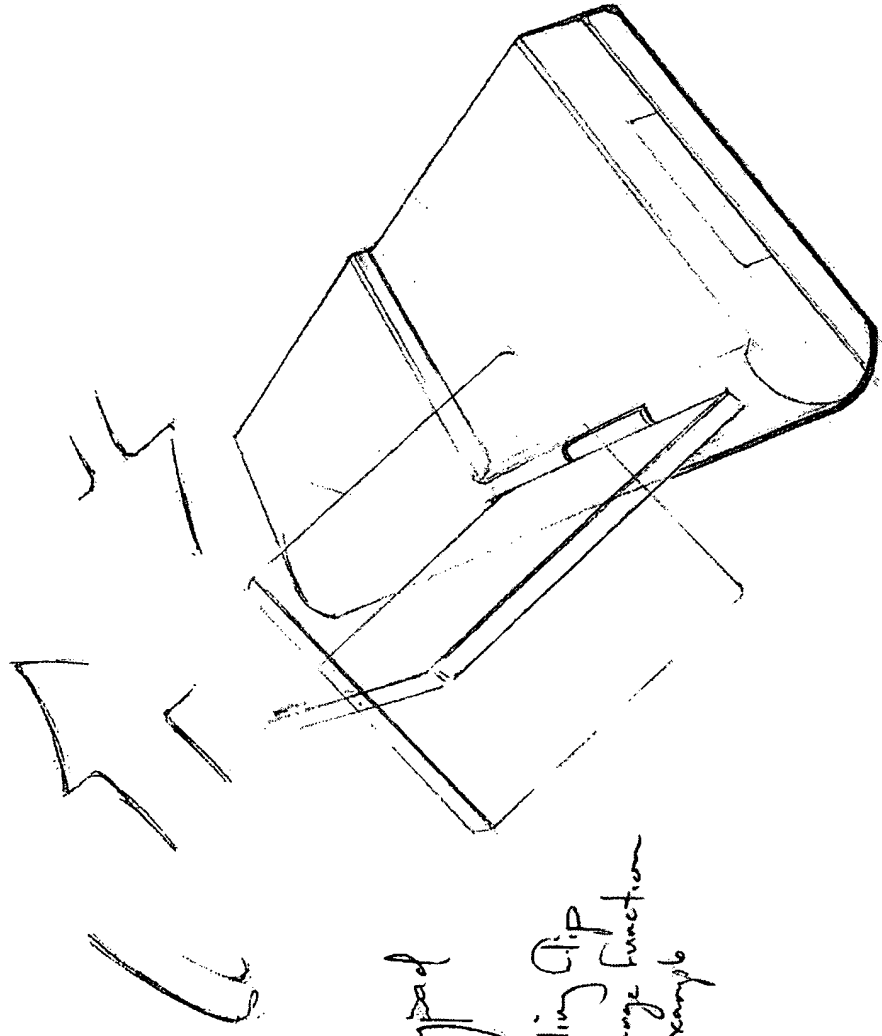
## 3. What problem is solved by your invention and how was it solved before?

Cite any known inventions for which yours is a replacement.

Allows for 3 distinct input interfaces on the same device  
- replaces standard keypad

## 4. What is your invention and how is it better than prior solutions? Describe in detail the structure, and how to make and use your invention, particularly the features which make it advantageous. Include drawings, flow charts, block diagrams, schematics, etc.

This keypad would allow the user to carry a device with 3 distinct input interfaces, without separate or interchangeable parts. Device would quickly switch functions/primary purposes by flipping out the keypad, spinning it, and replacing. Possible uses: game interface, audio/MP3 interface, traditional keypad, scratch pad/touch pad/protective cover.  
- would change the look of the device drastically as well when switched around.



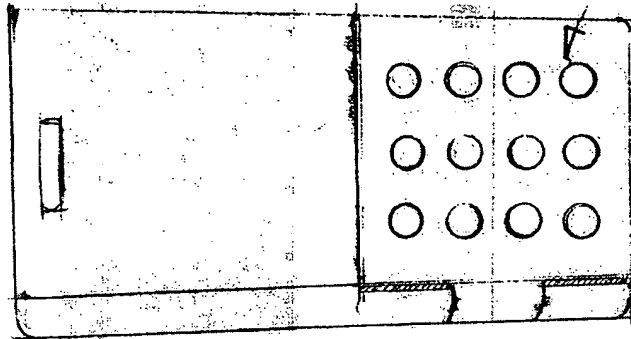
# 3 Way Keypad

Keypad switching clip  
 allow to change function  
 of the device example

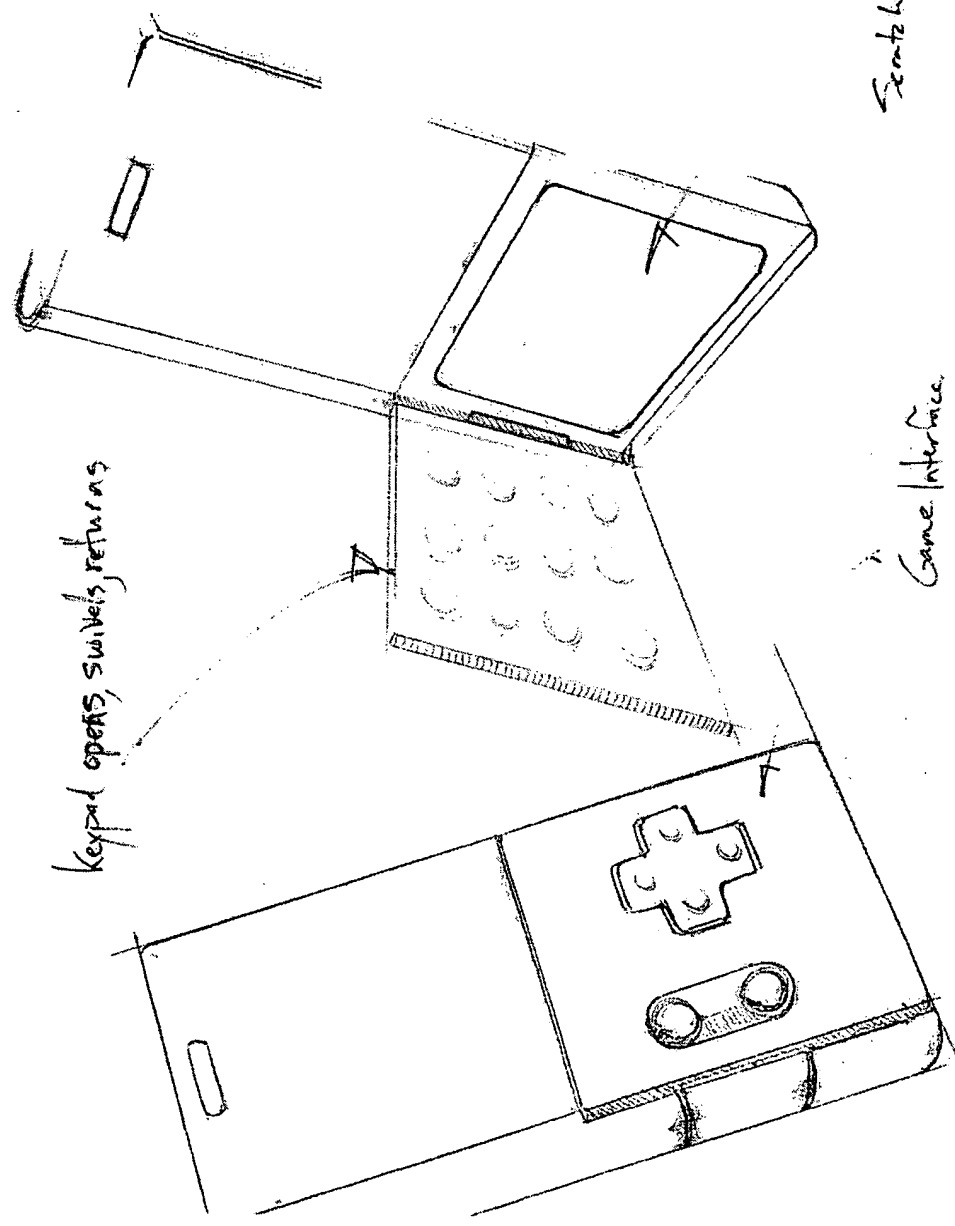
G.

Switch pad  
 traditional keypad  
 no interface

\* 3 dist. + inter device  
 by message



Control Panel



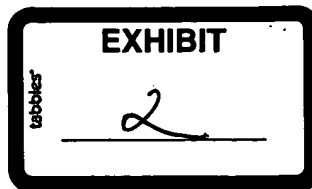
Control Panel

Game Interface

Keypad opens, swivels, returns



Sony Ericsson



2(2)

U03 0033

SUPPLEMENT

## Invention Disclosure

Docket No.

Title: 3-way keypad flip concept

### 1. What area of technology is your invention in? (Check 2 maximum)

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> Accessories | <input checked="" type="checkbox"/> Mechanics               | <u>Software</u>                                      |
| <input type="checkbox"/> Acoustic / audio       | <input type="checkbox"/> Packaging                          | <input type="checkbox"/> Applications                |
| <input type="checkbox"/> Antennas               | <input type="checkbox"/> Phone architectures/RF             | <input type="checkbox"/> Diagnostic/tools            |
| <input type="checkbox"/> Baseband / digital     | <input checked="" type="checkbox"/> Phone features/concepts | <input type="checkbox"/> Java                        |
| <input type="checkbox"/> Batteries / chargers   | <input type="checkbox"/> Systems                            | <input type="checkbox"/> Physical layer/firmware/DSP |
| <input type="checkbox"/> Bluetooth              | <input type="checkbox"/> Systems algorithms                 | <input type="checkbox"/> Positioning/GPS             |
|   | <input type="checkbox"/> Displays / LCDs                    | <input type="checkbox"/> Protocol                    |

### 2. What are the benefits of your invention?

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Appearance | <input checked="" type="checkbox"/> Easier to use | <input checked="" type="checkbox"/> New feature |
| <input type="checkbox"/> Better performance    | <input checked="" type="checkbox"/> Efficiency    | <input type="checkbox"/> Power saving           |
| <input type="checkbox"/> Cost savings          | <input type="checkbox"/> Improved audio           |   |

### 3. What problem is solved by your invention and how was it solved before?

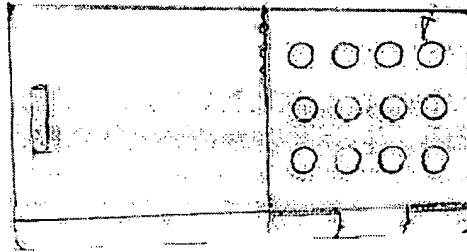
Cite any known inventions for which yours is a replacement. Allows for 3 distinct input interfaces on the same device- replaces standard keypad

4. What is your invention and how is it better than prior solutions? Describe in detail the structure, and how to make and use your invention, particularly the features which make it advantageous. Include drawings, flow charts, block diagrams, schematics, etc. – This keypad allows the user to carry a device with 3 distinct input interfaces, without separate or interchangeable parts. Device quickly switches function/primary purposes by flipping out the keypad, spinning it, and replacing. Possible uses: game interface, audio/mp3 interface, traditional keypad, scratch pad/touchpad, custom interfaces, protective cover, etc. - It changes the look of the device drastically as well, when switched around

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

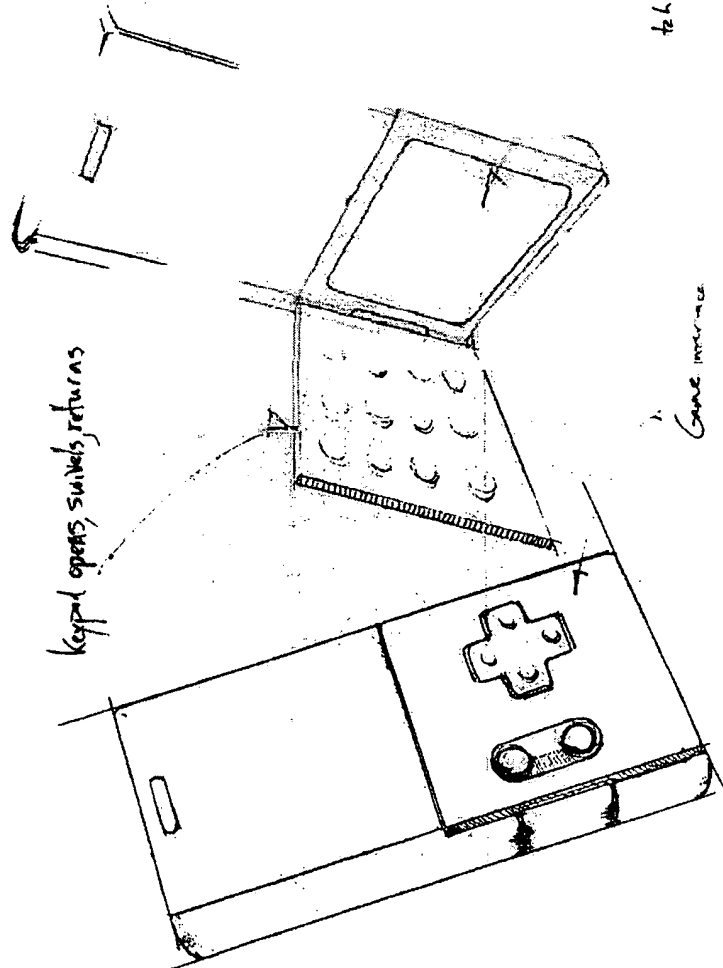
Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
(1) <i>Kam. Hui</i>	3/21/02	(1) <i>Kelly M. Doe</i>	3/21/02
(2)		(2)	
(3)		(3)	

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transmission  
control

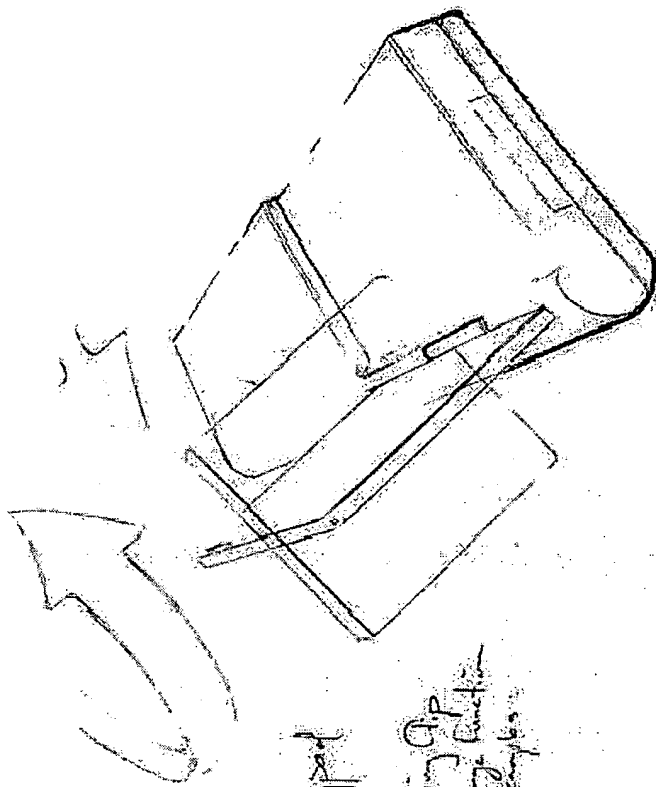
74



Keypad operates, switches, returns

Control interface





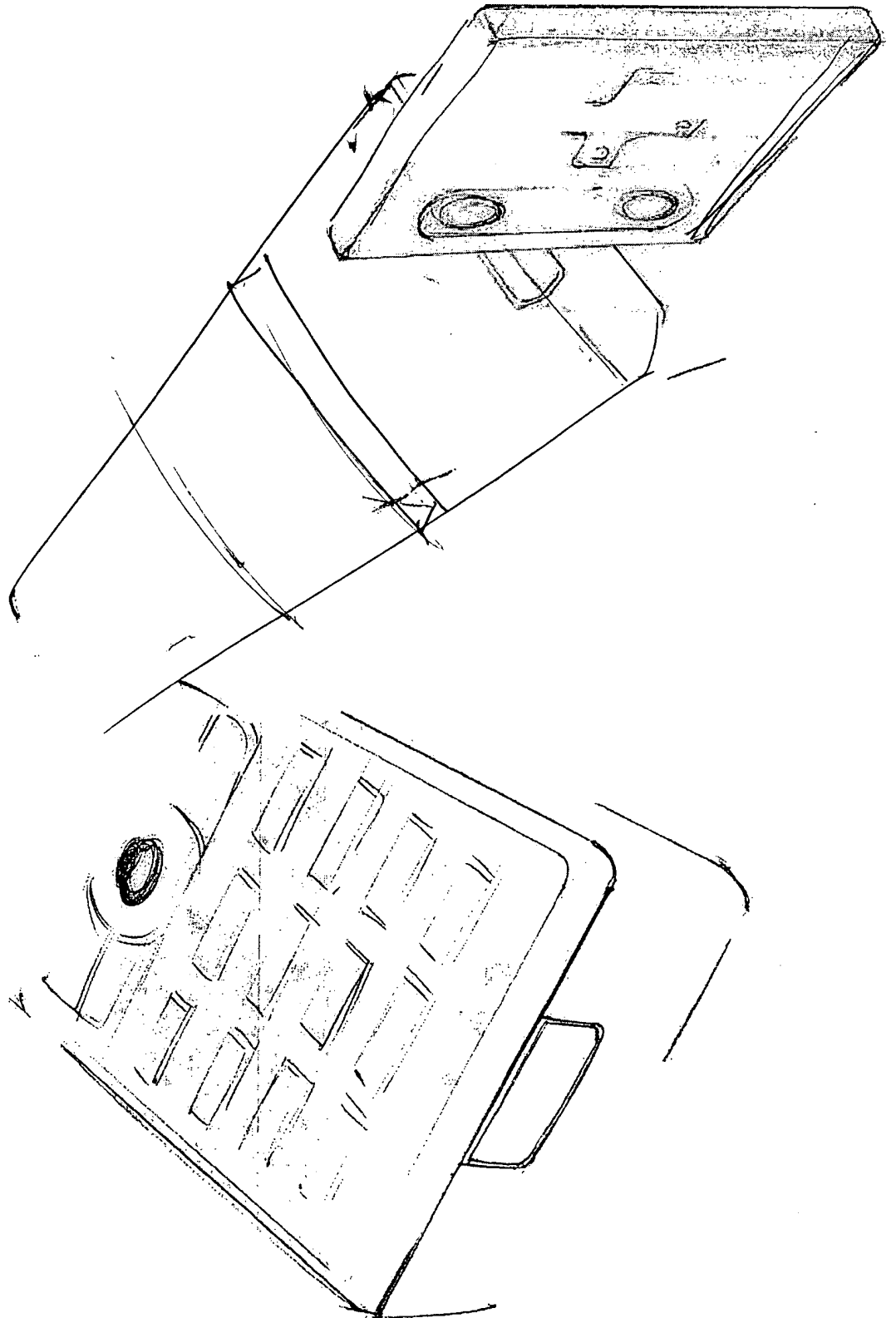
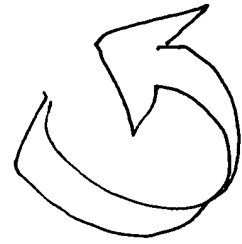
### 3-Way Keypad

Keypad on switching Pip  
allows user to change function  
of the Device examples

- Game
- Scrollpad
- traditional keypad
- more interaction

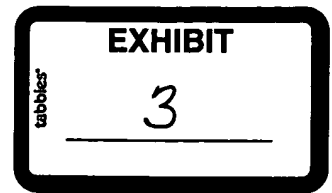
\* Bidirectional interface is one device  
No. interacting with party necessary

Carl yn +  
Opt





Sony Ericsson Mobile Communications (USA) Inc.  
7001 Development Drive  
RTP, North Carolina 27709



**VIA FEDERAL EXPRESS**

May 30, 2003

David E. Bennett, Esq.  
Coats & Bennett  
1400 Crescent Green  
Suite 300  
Cary, NC 27511

**REQUEST TO FILE PATENT APPLICATION**

**SEMC Docket No.: U03 0033**  
**Title: 3-Way Keypad Flip Concept**  
**Inventor: Kurt M. Hickey**

Dear David:

Please prepare and file a patent application in the U.S. Patent and Trademark Office on the above referenced invention. A copy of the invention disclosure and the inventor's questionnaire is enclosed. Any potential statutory bar date should be identified in one of these two documents; however, any potential bars should also be verified with the inventor.

A first draft of the application should be submitted to the inventor within three (3) months. Please advise if there is any problem with this schedule.

All rights in this application are to be assigned to Sony Ericsson Mobile Communications AB.

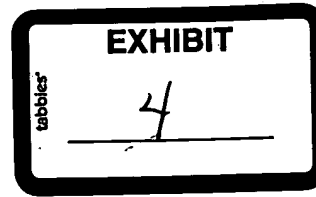
If you wish to discuss any matter regarding this application, please do not hesitate to contact me. Please contact the person noted above for any technical assistance in preparing the application.

Best regards,

Debra K. Stephens  
General Counsel, Intellectual Property

GCG/enclosures





1400 Crescent Green  
Suite 300  
Ry, North Carolina 27511  
tel: 919-854-1844  
800-575-1278  
fax: 919-854-2084  
www.coatsandbennett.com

Patents, Trademarks,  
Copyrights, Trade Secrets,  
Licensing, and  
Related Litigation

Larry L. Coats  
David E. Bennett  
John R. Owen  
David D. Kalish  
Edward H. Green III  
Anthony J. Biller  
Tara D. Muller

Michael D. Murphy\*  
Stephen A. Herrera\*

\*registered patent agent

August 26, 2003

Mr. Kurt M. Hickey  
**Sony Ericsson Mobile Communications Inc.**  
7001 Development Drive  
RTP, North Carolina 27709

**RE: U.S. Patent Application**  
**Sony Ericsson Ref. No.: U03-0033**  
**C&B Ref. No.: 2002-016**  
**Inventor: Kurt M. Hickey**  
**PORTABLE ELECTRONIC DEVICE WITH MULTIPLE INPUT INTERFACES**

Dear Mr. Hickey:

Enclosed please find the first draft of the above referenced application. Please review and fax to me any changes or comments you may have.

Please do not hesitate to call if you have any questions.

Sincerely,

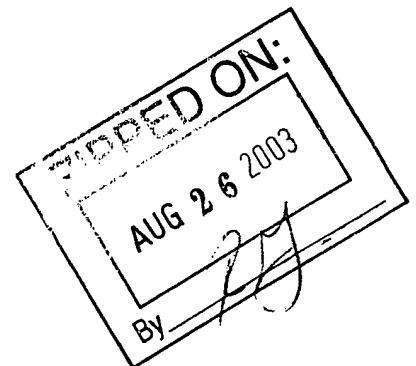
David E. Bennett

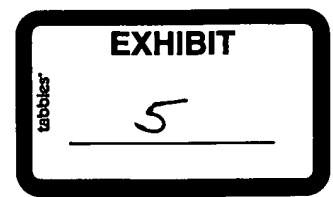
cc: Debra K. Stephens

DEB/rwg  
Enclosure

**SCANNED**

SEP 18 2003





September 26, 2003

Mr. Kurt M. Hickey  
**Sony Ericsson Mobile Communications Inc.**  
7001 Development Drive  
Research Triangle Park, NC 27709

**RE: U.S. Patent Application**  
**Sony Ericsson Ref. No.: U03-0033**  
**C&B Ref. No.: 2002-016**  
**Inventor: Kurt M. Hickey**  
**PORTABLE ELECTRONIC DEVICE WITH MULTIPLE INPUT**  
**INTERFACES**

Dear Kurt:

Enclosed please find the formal paperwork for the above-identified application. If you find it in order, please sign and date and return it to my office via facsimile. We will then file the application with the United States Patent Office. Please return the originals via regular mail. I would appreciate if you would call me to let me know when you have faxed it.

If you have any questions, please do not hesitate to contact me.

Sincerely,

David E. Bennett

DEB/kk  
Encl



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EXHIBIT

6

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/685,188	10/14/2003	2841	986	2002-016	4	32	2

CONFIRMATION NO. 4210

24112  
COATS & BENNETT, PLLC  
P O BOX 5  
RALEIGH, NC 27602

FILING RECEIPT



\*OC000000011716894\*

Date Mailed: 01/21/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Kurt M. Hickey, Durham, NC;

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 01/17/2004

Projected Publication Date: 04/14/2005

Non-Publication Request: No

Early Publication Request: No

Title

Portable electronic device with multiple input interfaces

Preliminary Class

361

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